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COLOURING MATTERS FROM WESTERN AUSTRALIAN SUNDEWS—I. HYDROXYDROSERONE

By M. C. RUSSELL, Como.

A free red pigment occurring on the outside of the tubers of the sundew *Drosera Whittakeri*, was described by Rennie (1887) and later synthesised by Winzor (1935). Its constitution was diagnosed by Winzor and other members of a team working under Professor A. Killen Macbeth (*infra*) as 3, 5, 8-trihydroxy-2-methyl-1, 4-naphthaquinone (hydroxydroserone).

This substance, not hitherto described from any source other than *D. Whittakeri* from South Australia, occurs on the tubers of the Western Australian sundews, *D. erythrorrhiza*, *D. stolonifera*, *D. rosulata* and *D. zonaria*, and doubtless will be found to be common to all members of the section *Erythrorrhiza* to which *D. Whittakeri* belongs. It is also found in acetone, alcohol or light petroleum extracts of the dried tissues of these plants although the occurrence is erratic in leaf tissue. Somewhat unexpectedly it was found to be yielded by the tuber, stem, leaves, and particularly the flowers of *D. gigantea* which, in this respect, is unlike any other member of the section *Polypcltes* so far examined (*viz.*: *D. maerantha*, *D. Menziesii* and *D. pallida*).

Isolation of the pure substance was carried out by treatment of the tubers with cold acetone, precipitation of the pigment by addition of cold water, and subsequent recrystallisation from aqueous acetone. Several such recrystallisations were required to remove a white fatty material the occurrence of which had been noted by Rennie (1893).

The small red plates obtained in this way from the local sundews were found to be identical by melting point criterion with a sample obtained in the same way from *D. Whittakeri* (M.P. and mixed M.P. 190-191 deg.—Beek, Macbeth and Winzor (1934) reported 192 deg.).

Comparisons in the visible region between the absorption spectra in 95% alcohol of samples from *D. Whittakeri* and from local sundews were made visually by means of a comparison prism and gave evidence of identity of all samples. Only an approximate check of the actual wave-lengths of absorption maxima could be made with the equipment available but the results obtained from all samples, including that from *D. Whittakeri*, agreed within the limits of accuracy of the instrument with the data

published by Maebeth, Preece and Winzor (1935) for hydroxydroserone. A small crest on the curve drawn by these authors at approximately 535 millimiera is seen visually as a distinct and characteristic narrow band. This and its companion at approximately 520 millimiera (Maebeth, Preece and Winzor—518 millimiera) shift slightly to the red in light petroleum.

Two other crystalline substances believed to be droserone and plumbagin have been isolated from some of the plant material studied and the existence of a fourth is indicated by filter paper chromatography. It is hoped to make these the subject of a further paper.

I wish to acknowledge the gift of *D. Whittakeri* tubers kindly forwarded to me by Mr. T. R. N. Lothian, Director of the Botanic Garden, Adelaide, and of helpful correspondence from Mr. R. G. Cooke, Chemistry Department, University of Melbourne.

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THE INTRODUCED TURTLEDOVES IN WESTERN AUSTRALIA

By ERIC H. SEDGWICK, Collie.

(Continued from p. 100)

PART II

From the numerous metropolitan records received it has been deduced that both the Senegal Turtle dove (*Streptopelia senegalensis*) and the Indian Turtle dove (*S. chinensis*) extend virtually throughout the built-up areas of Perth.

In the list of localities which follows, the distinction between "metropolitan" and "extra metropolitan" areas has not been made on an arbitrary geographical basis; the author has classed as "metropolitan" areas which are substantially built up and "extra metropolitan," not only country centres but also areas only partly built up which fall within the metropolitan area proper.

A few negative records of the Senegal Turtle dove from well outside the known distribution of the species in Western Australia have been excluded and negative records of the Indian Turtle dove have been given only for localities from which the Senegal Turtle dove has been recorded.